

# śłodowy raj

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- Gravity **11.9 BLG**
- ABV **4.8 %**
- IBU **11**
- SRM **6**
- Style **German Pilsner (Pils)**

## Batch size

- Expected quantity of finished beer **30 liter(s)**
- Trub loss **5 %**
- Size with trub loss **33 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **39.6 liter(s)**

## Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **21 liter(s)**
- Total mash volume **28 liter(s)**

## Steps

- Temp **67 C**, Time **60 min**
- Temp **78 C**, Time **10 min**

## Mash step by step

- Heat up **21 liter(s)** of strike water to **74.8C**
- Add grains
- Keep mash **60 min** at **67C**
- Keep mash **10 min** at **78C**
- Sparge using **25.6 liter(s)** of **76C** water or to achieve **39.6 liter(s)** of wort

## Fermentables

| Type  | Name                       | Amount       | Yield | EBC |
|-------|----------------------------|--------------|-------|-----|
| Grain | Strzegom Pilzneński        | 5 kg (71.4%) | 80 %  | 4   |
| Grain | Viking melanoidynowy       | 1 kg (14.3%) | 75 %  | 40  |
| Grain | Strzegom Monachijski typ I | 1 kg (14.3%) | 79 %  | 16  |

## Hops

| Use for             | Name                  | Amount | Time     | Alpha acid |
|---------------------|-----------------------|--------|----------|------------|
| Boil                | Kazbek                | 10 g   | 60 min   | 4.6 %      |
| Boil                | Saaz (Czech Republic) | 10 g   | 60 min   | 4.5 %      |
| Aroma (end of boil) | Saaz (Czech Republic) | 10 g   | 15 min   | 4.5 %      |
| Aroma (end of boil) | Kazbek                | 10 g   | 15 min   | 4.6 %      |
| Aroma (end of boil) | Kazbek                | 10 g   | 5 min    | 4.6 %      |
| Aroma (end of boil) | Saaz (Czech Republic) | 10 g   | 5 min    | 4.5 %      |
| Dry Hop             | Saaz (Czech Republic) | 20 g   | 7 day(s) | 4.5 %      |
| Dry Hop             | Kazbek                | 20 g   | 7 day(s) | 4.6 %      |

## Yeasts

| Name                | Type | Form   | Amount | Laboratory  |
|---------------------|------|--------|--------|-------------|
| Wyeast - German Ale | Ale  | Liquid | 125 ml | Wyeast Labs |